

# EAST Search History (25 pp.)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	("6078064").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/29 08:13
L2	37	counter adj doping.ti.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/29 08:14
L3	1393	amphoteric near4 (C carbon)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/29 08:15
L4	10	amphoteric near4 (C carbon).ti.ab, clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/29 08:55
L5	15919	((257/79) or (257/8\$1) or (257/9\$1) or (257/10\$1) or (372/43.01) or (372/46.01)).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/29 08:56
L6	90	5 and (amphoteric (dual near3 (dopant impurity)) counter adj (doping dopant) counter-doping counter-dopant)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/29 08:58
L7	81	5 and (amphoteric (dual near3 (dopant impurity)) counter adj (doping dopant) counter-doping counter-dopant) and @ad<"20031006"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/29 08:59
L8	18	5 and (amphoteric (dual near3 (dopant impurity)) counter adj (doping dopant) counter-doping counter-dopant) and @ad<"20031006" and nitride	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/29 09:00
S1	3	"605513".ap.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 09:19

## EAST Search History

S2	99	"5563422"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/04 11:49
S3	2	("5563422").PN.	USPAT; USOCR; DERWENT	OR	OFF	2004/11/04 11:50
S4	2	("6078064").PN.	USPAT; USOCR; DERWENT	OR	OFF	2004/11/04 11:51
S5	15	dual adj contact and (light-emitting light adj emitting laser).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 11:57
S6	968	(contact near4 n-type near4 p-type) and (light-emitting light adj emitting laser).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 11:57
S7	613	(contact near3 n-type near3 p-type) and (light-emitting light adj emitting laser).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 11:58
S8	239	(contact near2 n-type near2 p-type) and (light-emitting light adj emitting laser).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 12:09
S9	3	dual adj doping and (light-emitting light adj emitting laser).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 12:19
S10	56919	contact.ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 12:20



## EAST Search History

S11	4506	contact.ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/100.ccls. 257/101.ccls. 257/102.ccls. 257/103.ccls. 372/43.ccls. 372/44.ccls. 372/45.ccls. 372/46.ccls. 372/47.ccls. 372/48.ccls. 372/49.ccls. 372/50.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 12:21
S12	94	contact.ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/100.ccls. 257/101.ccls. 257/102.ccls. 257/103.ccls. 372/43.ccls. 372/44.ccls. 372/45.ccls. 372/46.ccls. 372/47.ccls. 372/48.ccls. 372/49.ccls. 372/50.ccls.) and (brightness light adj intensity).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 12:43
S13	31	contact.ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/100.ccls. 257/101.ccls. 257/102.ccls. 257/103.ccls. 372/43.ccls. 372/44.ccls. 372/45.ccls. 372/46.ccls. 372/47.ccls. 372/48.ccls. 372/49.ccls. 372/50.ccls.) and (brightness light adj intensity).ti,ab,clm. and contact near4 (dual n-type p-type)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 14:14
S14	0	540/145.ccls. and semiconductor and porphyrin	USPAT	OR	ON	2004/11/04 14:31
S15	17	540/145.ccls. and semiconductor and porphyrin	USPAT	OR	ON	2004/11/04 14:34
S16	3	"396512".ap.	USPAT	OR	ON	2004/11/04 14:52
S17	4	"396512".ap.	US-PGPUB; USPAT	OR	ON	2004/11/04 14:53
S18	5809	((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/11/07 13:25
S19	1142	((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 16:31

## EAST Search History

S20	5	((((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 AlInGaN and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 16:51
S21	6	(US-5563422-\$ or US-6078064-\$ or US-6207972-\$).did. or (US-20040104399-\$).did. or (EP-622858-\$ or US-6078064-\$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/11/04 16:48
S22	5	((((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 AlInGaN and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 16:53
S23	183	((((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 16:53

## EAST Search History

S24	185	(((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN GaInN InGaN AlGaN GaAlN AlInN InAlN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 16:54
S25	3	(((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN GaInN InGaN AlGaN GaAlN AlInN InAlN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) and dual	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 16:55
S26	1	(((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN GaInN InGaN AlGaN GaAlN AlInN InAlN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) and dual near4 contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 16:55



## EAST Search History

S27	0	((((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN GaInN InGaN AlGaN GaAlN AlInN InAlN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) and dual near4 doping	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/04 16:56
S28	467	multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/05 14:02
S29	24	multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and barrier adj layer near6 "well layers"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/05 09:13
S30	9	(US-6207972-\$ or US-6078064-\$ or US-5563422-\$).did. or (US-20040056258-\$ or US-20020197764-\$ or US-20040164310-\$ or US-20040104399-\$).did. or (EP-622858-\$ or US-6078064-\$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/11/05 13:50
S31	5	"6207972"	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/11/05 13:51
S32	2	"6207972".pn.	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/11/05 13:51

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S33	1	multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (conductive oxide ZnO ITO indium-zinc adj oxide) and (dual near3 (dopant doped)) and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/05 14:08
S34	42	multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (conductive oxide ZnO ITO indium-zinc adj oxide) and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/05 18:46
S35	30	multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (conductive oxide ZnO ITO indium-zinc adj oxide) and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN) and (clad cladding)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/05 16:35
S36	120	(light-emitting light adj emitting laser).ti,ab,clm. and (buffer near6 GaAs near6 AlGaInP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/06 17:19
S37	23	(light-emitting light adj emitting laser).ti,ab,clm. and (buffer near3 GaAs near3 AlGaInP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 16:39

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S38	44	(light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 16:40
S39	44	((light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)) and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 16:43
S40	14	((light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)) and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate) and (transparent adj2 oxide zinc oxide ZnO indium-tin adj oxide ITO)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 16:45
S41	8	((light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)) and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate) and (transparent adj2 oxide zinc adj oxide ZnO indium-tin adj oxide ITO)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 17:45
S42	1	((light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)) and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate) and (transparent adj2 oxide zinc adj oxide ZnO indium-tin adj oxide ITO) and (MQW multiple adj quantum adj layer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 16:48
S43	2	"5233204".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 18:26
S44	29	p-type adj electrode near3 "formed".clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 18:27



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S45	53	multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/05 18:47
S46	11	multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN) and buffer.ti,ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/05 18:48
S47	1	"5981977".pn. and (MQW multiple adj quantum)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:13
S48	0	active near4 InGaN near4 GaN near4 (MQW multiple adj quantum) near4 efficiency	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:13
S49	0	active near8 InGaN near8 GaN near8 (MQW multiple adj quantum) near8 efficiency	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:14
S50	68	active near8 (MQW multiple adj quantum) near8 efficiency	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:14
S51	3	active near4 (MQW multiple adj quantum) near4 efficiency and InGaN	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:52

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S52	192	active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:56
S53	113	active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN) and (light-emitting light adj emitting). ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:57
S54	94	active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaIn AlGaIn InGaIn GaAlN GaInN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:58
S55	26	active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaIn AlGaIn InGaIn GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 13:59

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S56	26	active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaN GaAlN InGaN GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaN InGaN GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 14:01
S57	21	active near4 (MQW multiple adj quantum) near6 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaN GaAlN InGaN GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaN InGaN GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 14:02
S58	4	active near4 (MQW multiple adj quantum) near6 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaN GaAlN InGaN GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaN InGaN GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide) and barrier near6 InGaN	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 14:03



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S59	21	active near4 (MQW multiple adj quantum) near6 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaIn InGaIn GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 14:55
S60	62	multiple adj quantum adj "well".ti, ab. and light-emitting.ti.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 15:04
S61	90	buffer near8 substrate near8 GaAs near8 (AlGaInP AlInGaP GaInAlP GaAlInP InAlAsP InAsAlP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 15:06
S62	18	buffer near4 substrate near4 GaAs near4 (AlGaInP AlInGaP GaInAlP GaAlInP InAlAsP InAsAlP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 15:12
S63	1	buffer near4 substrate near4 GaAs near4 AlGaIn	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 16:02
S64	1	buffer near4 substrate near4 GaAs near4 (AlInN InAlN GaInN InGaIn GaAlN AlGaIn)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 16:32
S65	28	buffer near4 substrate near4 GaAs near4 (AlInP InAlP GaInP InGaP GaAlP AlGaP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 16:35
S66	18	buffer near4 substrate near4 GaAs near4 (AlInP InAlP GaInP InGaP GaAlP AlGaP) and "257"/\$7.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 16:35

## EAST Search History

S67	17	buffer near4 substrate near4 GaAs near4 (AlIn InAlP GaInP InGaP GaAlP AlGaP) and "257"/\$7.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/06 16:36
S68	34	buffer near4 (AlInGaN AlGaInN InAlGaN InAlGaN GaAlInN GaInAlN InGaN GaInN GaAlN AlGaN AlInN InAlN) and substrate near4 GaAs and (multiple adj quantum adj "well" MQW) near4 (InGaN GaInN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/06 17:23
S69	17	buffer near4 (AlInGaN AlGaInN InAlGaN InAlGaN GaAlInN GaInAlN InGaN GaInN GaAlN AlGaN AlInN InAlN) and substrate near4 GaAs and (multiple adj quantum adj "well" MQW) near4 (InGaN GaInN) and (light-emitting light adj emitting).ti,ab,clm. and "257"/\$7.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/06 17:38
S70	1461	Si-doped adjGaN near12 n-GaN	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/06 17:38
S71	6	Si-doped adj GaN near12 n-GaN	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/06 19:36
S72	9	II-nitride	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/06 19:37
S73	11242	((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/4\$1) or (372/50)).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/11/07 13:26
S74	72	((((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/4\$1) or (372/50)).CCLS.) and (dual adj dopant window adj layer) and (transparent near3 oxide ZnO ITO)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/07 13:44



## EAST Search History

S75	41	(((((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/4\$1) or (372/50)).CCLS.) and (dual adj dopant window adj layer) and (transparent near3 oxide ZnO ITO)) and (dual\$2 dopant doping impurities impurity) and (transparent near3 oxide ZnO ITO)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/07 13:46
S76	0	epistar.as. and oxide.clm. and window.clm. and dual\$2.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/07 13:48
S77	0	epistar.as. and oxide.clm. and dual\$2.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/07 13:48
S78	0	epistar.as. and dual\$2.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/07 13:48
S79	0	epistar.as. and dual.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/07 13:49
S80	5	epistar.as. and (light adj emitting light-emitting).clm. and contact adj (film layer).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/11/07 13:50
S87	2	"6207972".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/09 13:50
S88	2	"751794".ap.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/09 13:51



## EAST Search History

S89	2	("6207972").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/17 13:12
S90	2	("5981977").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/17 13:20
S91	0	("merchant.in.").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/17 15:57
S92	1499	merchant.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/17 15:57
S93	149	merchant.in. and agere.as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/17 16:27
S94	2	jp-63029973\$-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/17 16:27
S95	6	((("6,207,972") or ("5,981,977") or ("6,586,777")).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/19 13:39
S96	2	("6207972").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/19 15:11
S97	8	dual adj dopant and (laser light adj emitting).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/19 15:36
S98	0	dually adj doped and (laser light adj emitting).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/19 15:36

## EAST Search History

S99	22	doubly adj doped and (laser light adj emitting).ti,ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/19 15:40
S100	609	contact near5 (ito zno indium-tin-oxide transparent).ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and semiconductor	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/19 15:42
S101	105	contact near5 (ito zno indium-tin-oxide transparent).ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and semiconductor and n-type near3 p-type	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/19 15:53
S102	3	("6803603").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/19 15:51
S103	71	contact near5 (ito zno indium-tin-oxide transparent).ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and semiconductor and n-type near3 p-type and (nitride GaN GaAlN AlGaIn)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/19 15:55
S104	23	(US-20020197764-\$ or US-20030006429-\$ or US-20040031978-\$ or US-20040056258-\$ or US-20040104399-\$ or US-20040164310-\$ or US-20050035362-\$).did. or (US-5481122-\$ or US-5563422-\$ or US-5763291-\$ or US-5789768-\$ or US-5981977-\$ or US-6057562-\$ or US-6078064-\$ or US-6169294-\$ or US-6207972-\$ or US-6225648-\$ or US-6303473-\$ or US-6465812-\$ or US-6552367-\$ or US-6735230-\$).did. or (EP-622858-\$ or US-6078064-\$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/05/19 16:01
S105	15	S104 and n-type near6 p-type	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/05/19 16:19
S106	3	S104 and n-type near6 p-type near6 (doping dopant)	US-PGPUB; USPAT; DERWENT	OR	ON	2005/05/19 16:02



## EAST Search History

S10 7	170	transparent near6 contact and contact near6 p-type near6 n-type and (light-emitting light adj emitting laser) adj diode	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/19 16:21
S10 8	169	transparent near6 contact and contact near6 p-type near6 n-type and (light-emitting light adj emitting laser) adj (diode device). ti,ab,clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/19 16:22
S10 9	127	transparent near6 contact and contact near6 p-type near6 n-type and (light-emitting light adj emitting laser) adj (diode device). ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/10\$1.ccls. 372/4\$1.ccls. 372/50.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/19 16:24
S11 0	100	transparent near6 contact and contact near6 p-type near6 n-type and (light-emitting light adj emitting laser) adj (diode device). ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/10\$1.ccls. 372/4\$1.ccls. 372/50.ccls.) and (GaN AlGaIn GaAlIn GaAlInN InAlGaIn GaInAlN nitride)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/19 16:25
S11 1	0	epistar.as. and contact adj (film layer) near4 (dual dually doubly near3 doped).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/19 17:17
S11 2	25806	((257/79) or (257/8\$1) or (257/9\$1) or (257/10\$1) or (372/4\$1) or (372/50)).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/20 08:17
S11 3	18	S112 and (((dual dually) near4 (dopant doping doped)) (n-type near4 p-type)) near6 (transparent near1 (oxide electrode) indium-tin-oxide ITO) and (laser light-emitting light adj emitting).ti, ab,clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 08:20



## EAST Search History

S11 4	23	(Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/21 17:34
S11 5	0	(Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact near10 (transparent adj electrode ITO indium-tin-oxide ZnO)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/21 15:34
S11 6	8	(Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact and (transparent adj electrode ITO indium-tin-oxide ZnO)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/21 15:34
S11 7	8	(Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact and (transparent adj electrode ITO indium-tin-oxide ZnO)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 15:34
S11 8	8	(Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact and (transparent adj electrode ITO indium-tin-oxide ZnO) and (light-emitting light adj emitting laser)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 16:40
S11 9	295	transparent adj substrate near3 sapphire	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 16:40
S12 0	0	(Si:AlInGaN Ge:AlInGaN AlInGaN:Si AlInGaN:Ge InAlGaN:Si InGaAlN:Si) near4 contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/21 17:35
S12 1	0	(Si:AlInGaN Ge:AlInGaN AlInGaN:Si AlInGaN:Ge InAlGaN:Si InGaAlN:Si AlInGaN:Ge) near4 contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/21 17:35
S12 2	0	(Si:AlInGaN Ge:AlInGaN AlInGaN:Si AlInGaN:Ge InAlGaN:Si InGaAlN:Si AlInGaN:Ge) near4 contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 17:40
S12 3	17	GaN near4 intrinsic near4 n-type	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 18:19

## EAST Search History

S12 4	0	transparent adj oxide near2 electrode near8 light adj emitting adj diode	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 18:19
S12 5	120	transparent adj oxide near2 electrode	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 18:20
S12 6	0	transparent adj oxide near2 electrode near8 light adj extraction	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 18:20
S12 7	2	transparent adj oxide near2 electrode near8 efficiency	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/21 18:20
S12 8	32	(US-20020197764-\$ or US-20030006429-\$ or US-20030047736-\$ or US-20030127658-\$ or US-20040031978-\$ or US-20040056258-\$ or US-20040079947-\$ or US-20040104399-\$ or US-20040164310-\$ or US-20040227151-\$ or US-20050035362-\$).did. or (US-4495514-\$ or US-5481122-\$ or US-5563422-\$ or US-5763291-\$ or US-5789768-\$ or US-5981977-\$ or US-6057562-\$ or US-6078064-\$ or US-6169294-\$ or US-6207972-\$ or US-6225648-\$ or US-6303473-\$ or US-6380564-\$ or US-6465812-\$ or US-6552367-\$ or US-6712478-\$ or US-6735230-\$ or US-6803603-\$ or US-6806503-\$).did. or (EP-622858-\$ or US-6078064-\$). did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/10/29 09:20
S12 9	0	S128 and kneissl.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 09:20



## EAST Search History

S13 0	199	kneissl.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 09:20
S13 1	38	kneissl.in. and light adj emitting	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 09:22
S13 2	2	("6515308").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 19:36
S13 3	62	contact adj layer near6 (dual (dual mixed) adj conductivity)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 09:50
S13 4	2	JP-2004282006\$-\$\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 09:52
S13 5	1	TW-561637\$-\$\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 09:58
S13 6	4	"both" near6 p-type near6 n-type near6 contact adj (layer film)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 10:00
S13 7	274	"doped" near4 "both" near6 p-type near6 n-type	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 10:02
S13 8	11	("doped" near4 "both" near6 p-type near6 n-type) near6 contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 10:07



## EAST Search History

S13 9	0	("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near6 (mg zn be ca magnesium zinc beryllium cadmium) near6 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) near6 (contact adj (layer film))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 10:11
S14 0	1	("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near6 (mg zn be ca magnesium zinc beryllium cadmium) near6 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) with (contact adj (layer film))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 10:13
S14 1	89	("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near6 (mg zn be ca magnesium zinc beryllium cadmium) near6 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) and (light adj emitting laser)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 10:13
S14 2	77	("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near4 (mg zn be ca magnesium zinc beryllium cadmium) near4 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) and (light adj emitting laser)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 10:19
S14 3	59	("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near4 (mg zn be ca magnesium zinc beryllium cadmium) near4 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) and (light adj emitting laser) and contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 15:31
S14 4	98	MQW near4 barrier near4 (quantum adj "well")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 15:45
S14 5	0	MQW near4 barrier near4 (quantum adj "well") with (sandwich\$2 surround\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 15:45

## EAST Search History

S14 6	38	((multiple adj quantum adj "well" MQW) near8 barrier near8 (quantum adj "well")) with (sandwich\$2 surround\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 15:46
S14 7	19	((multiple adj quantum adj "well" MQW) near4 barrier near4 (quantum adj "well")) with (sandwich\$2 surround\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 15:49
S14 8	13	((multiple adj quantum adj "well" MQW) near4 barrier near4 (quantum adj "well")) with (sandwich\$2 surround\$3) and light adj emitting	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 17:28
S14 9	21	((multiple adj quantum adj "well" MQW) near6 barrier near6 (quantum adj "well")) with (sandwich\$2 surround\$3) and light adj emitting	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 17:28
S15 0	13	((multiple adj quantum adj "well" MQW) near4 barrier near4 (quantum adj "well")) with (sandwich\$2 surround\$3) and light adj emitting	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 17:29
S15 1	8	((multiple adj quantum adj "well" MQW) near6 barrier near6 (quantum adj "well")) with (sandwich\$2 surround\$3) and light adj emitting not S150	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 17:37
S15 2	4	(InGaN near1 barrier) same (InGaN near1 (QW quantum adj "well")) same sandwiched	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 17:40
S15 3	48	(barrier) near6 (QW quantum adj "well") near6 sandwiched and (GaN InGaN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 17:46
S15 4	45	(barrier) near6 (MQW quantum adj "well") near6 sandwiched and (GaN InGaN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 17:46
S15 5	8	(barrier) near6 (MQW) near6 sandwiched and (GaN InGaN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 17:47



## EAST Search History

S15 6	9	(barrier) near6 (MQW) near6 sandwich\$3 and (GaN InGaN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 19:09
S15 7	47	kneissl.in. and cladding adj layer	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 19:09
S15 8	6	(light adj emitting 257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/10\$1.ccls.) and second adj contact and MQW near4 (InGaN "In.sub."\$3 near1 "Ga.sub."\$3 near1 N) and (clad cladding) near4 (AlGaN GaAlN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 19:41
S15 9	3	"605513".ap.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 19:49
S16 0	0	TW-144415\$-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 19:49
S16 1	7	reverse adj tunnel\$1ing adj contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 19:51
S16 2	2	("4728370").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 19:52
S16 3	46	epistar.as. and contact	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 20:28
S16 4	2	buffer near4 (GaN adj (clad cladding)) near4 sapphire	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 20:30

## EAST Search History

S16 5	14	buffer near4 (GaN adj (clad cladding)) with sapphire	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:30
S16 6	0	buffer near4 (GaN adj (clad cladding)) with sapphire and lattice adj matching	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:34
S16 7	3	buffer near4 (GaN adj (clad cladding)) and sapphire and lattice adj matching	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:35
S16 8	0	buffer near4 (AlGaN adj (clad cladding)) and sapphire and lattice adj matching	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:35
S16 9	281	lattice adj matching and buffer and GaN and sapphire	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:35
S17 0	61	lattice adj matching with buffer and GaN and sapphire	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:36
S17 1	52	lattice adj matching with buffer and GaN and sapphire near3 substrate	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:36
S17 2	41	lattice adj matching with buffer and GaN with sapphire near3 substrate	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:52
S17 3	283	lattice adj constant near3 sapphire	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 20:55
S17 4	13	lattice adj constant near3 sapphire near6 buffer	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/10/29 22:17



## EAST Search History

S17 5	12173	((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/43.01)).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 22:18
S17 6	0	S175 and heavily adj doped near2 contact near4 diffusion with (deleterious disadvantage disadvantageous\$2 worsen\$3 detract\$3 problem maximum maximal ("too heavily" "too heavy"))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 22:21
S17 7	0	S175 and ((heavily near4 doping) (heavily adj doped)) near2 contact near4 diffusion with (deleterious disadvantage disadvantageous\$2 worsen\$3 detract\$3 problem maximum maximal ("too heavily" "too heavy"))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/10/29 22:21
S17 8	33	"6078064"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/28 19:12
S17 9	2	"20030201460"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/28 19:13
S18 0	2	("6078064").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/28 20:09
S18 1	0	"605513".ap. and GaAlInN	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/28 20:09
S18 2	0	"605513".ap. and GaInAlN	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/28 20:10
S18 3	3	"605513".ap.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/28 20:10